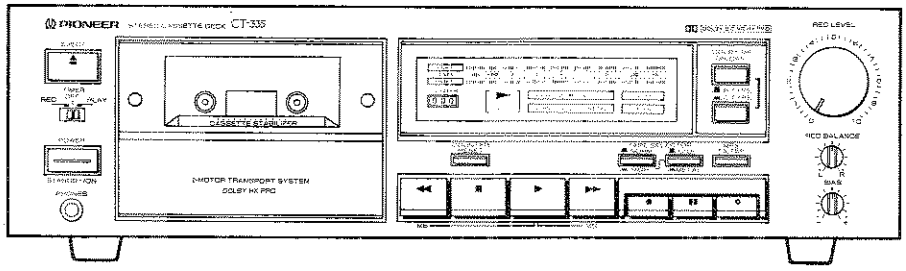
Operating Instructions

STEREO CASSETTE DECK

CT-335



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep the manual in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the drawings. However, the method of connecting and operating the unit is the same.

WARNING : TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

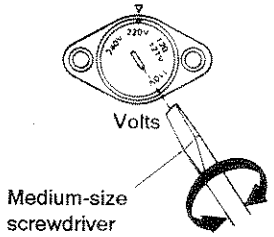
LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.

Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with 110V setting in Saudi Arabia.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.



"This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC and 82/499/EEC."

PIONEER®
The future of sound and vision.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off.

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Equipment sold in the U.K. is not supplied with a power plug.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

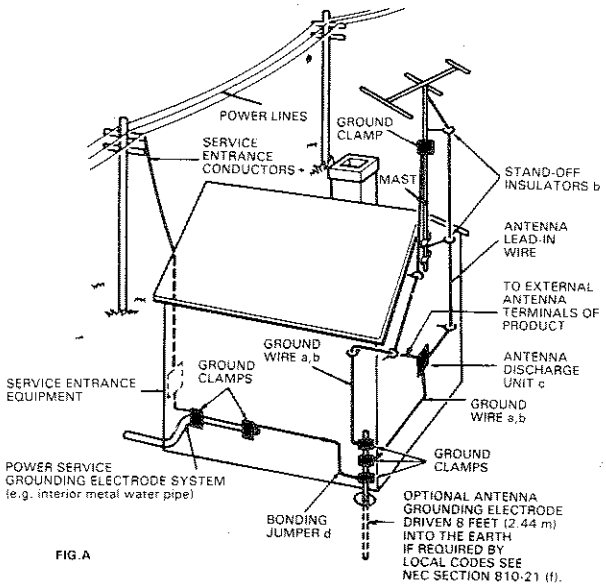

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
ANTENNA DISCHARGE UNIT c
GROUND WIRE a,b
GROUND CLAMPS
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
BONDING JUMPER d
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810-21 (f).

FIG.A

a) Use No.10 AWG (5.3 mm²) copper, No.8 AWG (8.4 mm²) aluminum, No.17 AWG (1.0 mm²) copper-clad steel, bronze wire, or larger as ground wire.
b) Secure antenna lead in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used.
See NEC Section 810-21 (j).

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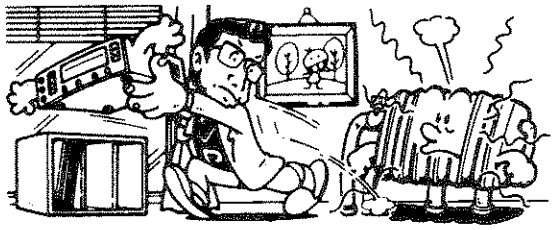
PRECAUTIONS ON INSTALLATION

HEAT

Do not place the unit near a heating device, on top of the amplifier or in a location where it is exposed to direct sunlight, as excessive heat may damage the finish and internal parts. Also, do not place a cloth on top of the unit or block the provided ventilation openings in any other way. Always make sure that the installation location provides sufficient ventilation to prevent overheating.



HUMIDITY, CONTAMINATION

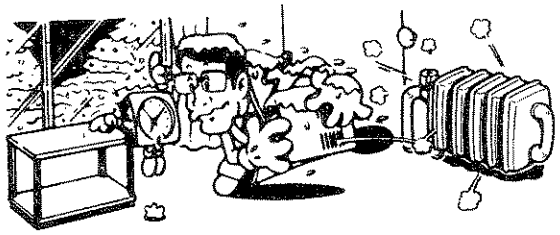
Do not install the unit in an excessively humid or dusty location, as this may cause malfunctions and breakdowns. Also, avoid placing the unit next to kitchen counters or other locations where it is subjected to oily fumes.

NOISE INTERFERENCE

When the unit is placed directly on top of the amplifier it may pick up humming or other noise during recording. A turned-on TV set in close vicinity may also cause noise.

DEW CONDENSATION

When the unit is moved from a cold to a warm environment, or when the room temperature rises drastically, condensation forms on parts of the tape transport mechanism, causing malfunctions when the tape deck is operated immediately. To avoid this, allow the tape deck to acclimate to the new temperature by waiting about one hour before operating the unit.



INFORMATION TO USER [FOR U.S. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio TV Interference Problems"
This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

[For Canadian model]

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

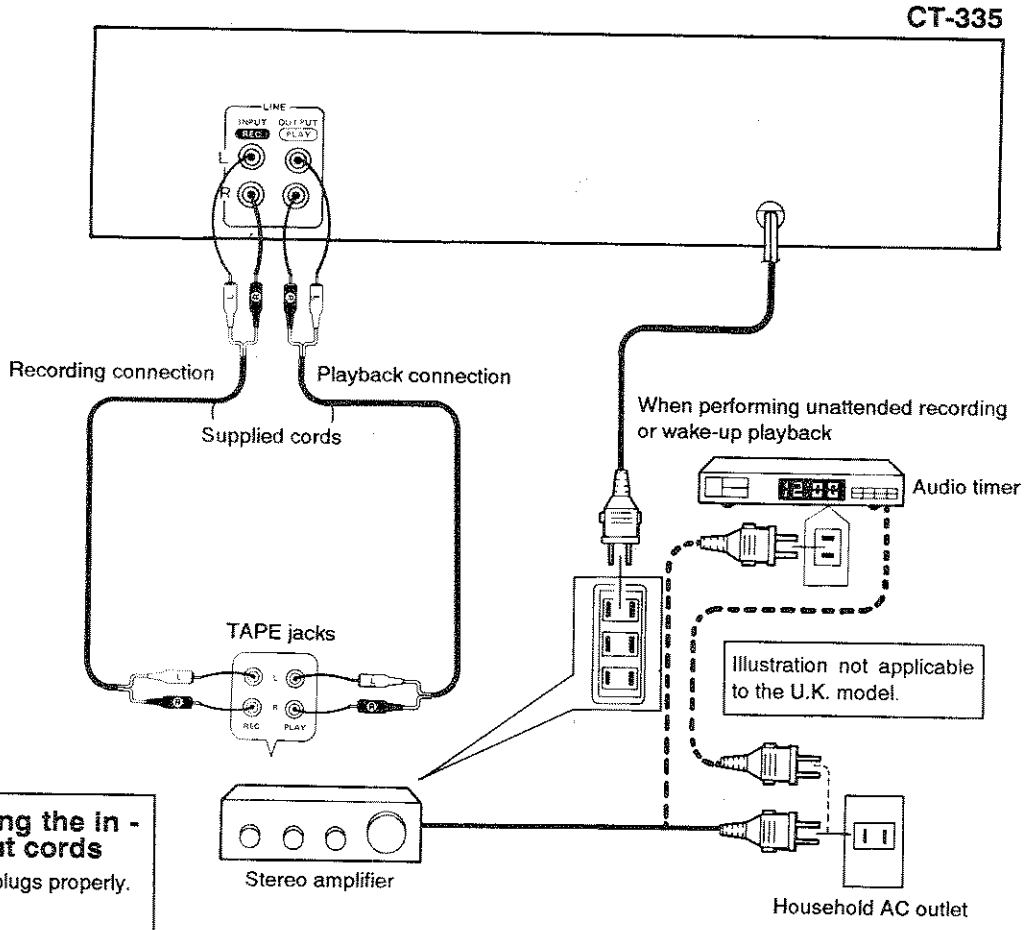
[Pour le modèle Canadien]

L'interférence, radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

CONNECTIONS

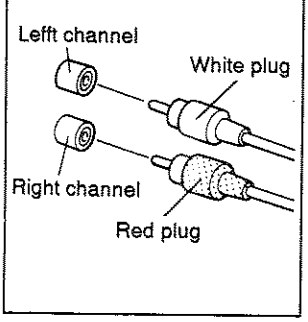
CONNECTING THE CASSETTE DECK TO AN AMPLIFIER

- Read through the operating instructions of the stereo components which you intend to connect to this unit.
- Turn on the power only after all the connections are completed.
- The top jacks are for the left (L) channel; the bottom jacks are for the right (R) channel.
- Make sure that the plugs are inserted securely. Improper connection may generate noise.
- Avoid placing the unit directly on top of an amplifier since this may cause humming or other noise.
- Avoid installing the unit too close to a TV set since humming may occur during recording.



Connecting the in - put/output cords

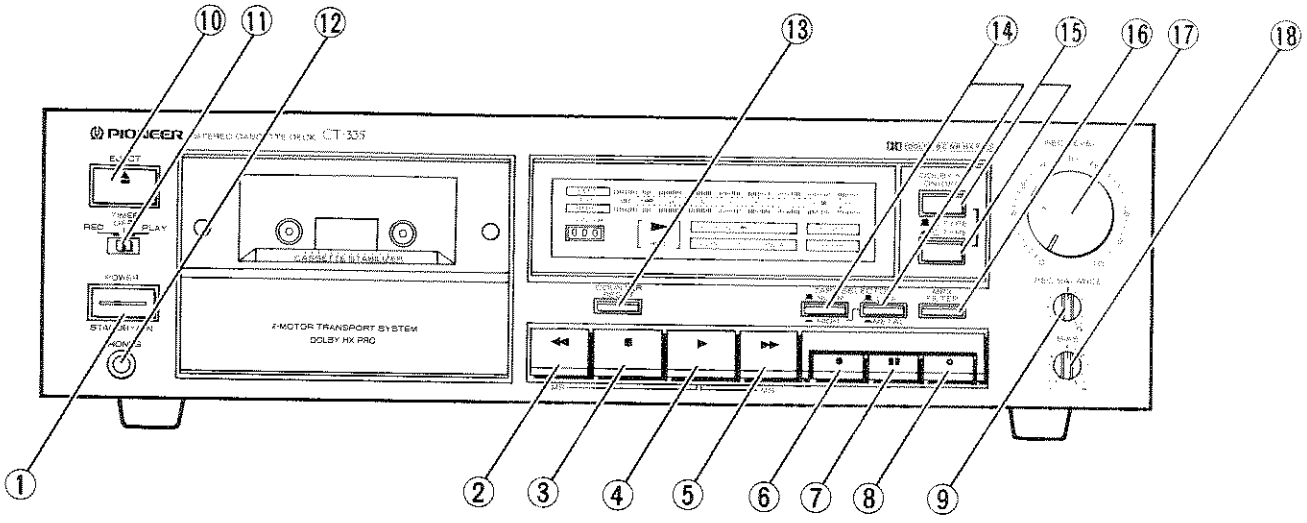
Connect the plugs properly.



Connection to an audio timer

For details on the connection to an audio timer, refer to the instruction manual of the audio timer.

FRONT PANEL FACILITIES



① POWER (STANDBY/ON) switch

NOTE:
The POWER switch turns off the transformer secondary circuits only, and so even at the STANDBY position, the unit is connected to the mains as long as the power cord is connected to a power outlet.

② Rewind button (◀◀)

To rewind the tape in the direction of the arrows.
When this button is pressed once during playback of a selection, the same selection will be played again. If pressed in the blank between two selections, the first selection before the current tape position will be played. The unit will skip one selection in reverse direction for each time the (◀◀) button is pressed. (see page 9)

③ Stop button (■)

To stop all operations.

④ Playback button (▶)

To start playback.

⑤ Fast forward button (▶▶)

To fast-forward the tape in the direction of the arrows.
When pressed during playback, the unit will skip one selection in forward direction for each time the (▶▶) button is pressed. (see page 9)

⑥ Recording button (●)

When the recording (●) button is pressed, the unit is set to recording standby mode.
Press the pause (▮▮) button or playback (▶) button when ready to record.
The unit will not enter the recording standby mode if a cassette with the erasure prevention tabs removed is loaded.

⑦ Pause button (▮▮)

To stop tape transport momentarily during recording or playback. Press the button again to resume operation. This can also be done by pressing the playback (▶) button. This button does not work during fast-forward and rewind.

⑧ Record muting button (○)

Press this button during recording to create a blank portion of approx. 4 seconds on the tape. The unit will then enter the recording standby mode.

⑨ REC BALANCE control

Balancing the recording level between left (L) and right (R) channels. (see page 8).

⑩ EJECT button (▲)

Press to open the cassette door after you have pressed the stop button (■) and the tape has stopped.

NOTE:
If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the EJECT button.

⑪ TIMER switch

OFF:

Normally, be sure to leave the switch in this position.

REC:

For timer recording (see page 10).

PLAY:

For timer playback (see page 10).

- Recording or playback may suddenly start when turning the power on with this switch in the REC or PLAY position.

⑫ PHONES jack

⑬ Tape COUNTER RESET button

Resets the tape counter reading to "000".

⑭ TAPE SELECTOR switches

These switches must be set in accordance with the tape used to select the proper recording bias and playback equalization.

Normal tape:

Release the left switch (▬ NORM).

CrO_2 tape:

Depress the left switch (▬ HIGH) and release the right switch (▬ CrO_2).

Metal tape:

Depress both the right and left switches (▬ HIGH, ▬ METAL).

⑮ DOLBY * NR switches

Set these switches to ON and B-TYPE or C-TYPE for recording with the built-in Dolby NR Systems and for playback of tapes which have been recorded using the Dolby NR Systems.
For other tapes, set the upper DOLBY NR switch to OFF.

*

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY," and the double-D symbol ◻◻ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑯ MPX FILTER switch

High frequencies may be muted when using the Dolby NR Systems during FM recording from some tuners. To prevent this, set the switch to ON.

OFF:

The FILTER indicator in the operating display goes off. Normally, leave the switch in this position.

ON:

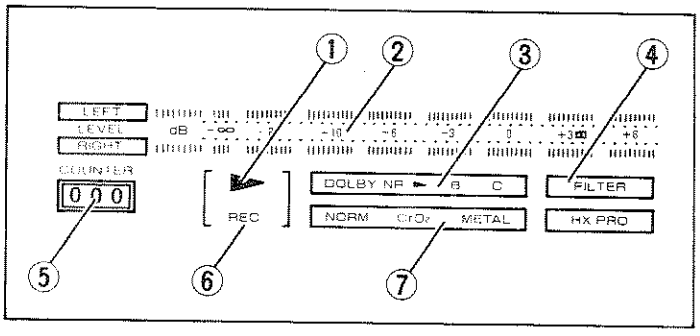
The FILTER indicator in the operating display lights up. The MPX FILTER switch can be set to ON only when the DOLBY NR ON/OFF switch is in the ON position.

⑰ REC LEVEL control

⑱ Rec BIAS control

It is possible to adjust the bias according to the tape used and the source to be recorded. (see page 9)

OPERATING DISPLAY



① Play indicator

▶: Lights up during playback and recording.
The indicator flashes slowly in the pause mode and fast during music search.

② LEVEL meter

LEFT : Left channel.
RIGHT : Right channel.

③ DOLBY B/C NR indicator

Indicates the selected Dolby Noise Reduction Systems, B-type or C-type.

④ MPX FILTER indicator

Lights up when the MPX FILTER switch is pressed and the Dolby NR Systems are ON.

⑤ Tape COUNTER

⑥ REC indicator

Lights up during recording.

⑦ Tape selector indicator

Shows the position of the TAPE SELECTOR switches.

HOW TO HANDLE CASSETTE TAPES

CHECK CASSETTE BEFORE USE

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette ?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack (Fig. A.).

Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for ?

A cassette is provided with these tabs so that important or otherwise valuable recordings will not be erased accidentally.

When the tab (Fig. B) on the cassette shell is broken off with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (●) button, so valuable recordings will not be erased in error. To re-record a cassette on which tabs have been broken off, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

NOTE:

- *The accidental erasure prevention tabs are located at the top left on both sides A and B (or 1 and 2), so that material on each side can be prevented from being erased in error.*
- *When breaking off the tab on the cassette shell, do not use a magnetized screwdriver.*

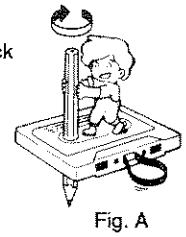


Fig. A

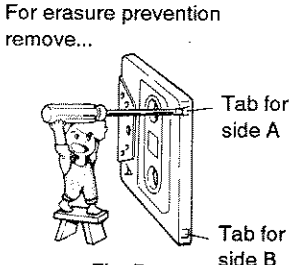


Fig. B

Fig. C

TIPS ON USING CASSETTE TAPES

- Leader tape (which does not allow sound to be recorded on it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.
- Do not use FeCr tapes with this unit.

OPERATIONS

TAPE PLAYBACK

1. Press the POWER switch ① to ON.
2. Press the EJECT (▲) button ⑩, and insert a pre-recorded tape.
3. Set the TAPE SELECTOR switches ⑭ to the position that corresponds to the type of tape being used. (For details, refer to TAPE SELECTOR switches on page 6.)
4. Set the upper DOLBY NR switch ⑮ to ON when playing back a tape which has been recorded using the DOLBY NR Systems, and select the type (B or C) with the lower switch. (For details, refer to DOLBY NR switches on page 6.)
5. Press the playback (▶) button ④.
6. Adjust the VOLUME control on the stereo amplifier.
7. Press the stop (■) button ③ to stop the tape playback.

RECORDING

1. Press the POWER switch ① to ON.
2. Press the EJECT (▲) button ⑩, and load the cassette tape to be recorded. Check that the tape is wound onto the left reel.
3. Set the TAPE SELECTOR switches ⑭ to the position that corresponds to the type of tape being used.
4. Set the upper DOLBY NR switch ⑮ to ON when recording a tape using the DOLBY NR Systems, and select the type (B or C) with the lower switch.
5. Operate the program source (tuner, turntable, etc.).
6. Press the recording (●) button ⑥ to set the unit to the recording standby mode.

If a tape with its erasure prevention tabs removed is loaded, the unit cannot be set to recording standby.

7. Adjust the recording level. (For details, refer to setting the recording level.)
8. Press the pause (▮▮) button ⑦ to start recording.
9. Press the stop (■) button ③ to stop recording.

Press the pause button (▮▮) to temporarily interrupt recording. To restart recording, press the pause button (▮▮) again or the playback button (▶).

SETTING THE RECORDING LEVEL

When adjusting the recording level, observe the reading on the level meter and adjust the REC LEVEL control ⑰ appropriately. When turned clockwise, the recording level is increased and the level meter reading increases accordingly. When turned counterclockwise, the level is reduced. If the recording level is too high, the distortion in the recording increases; when if the level is too low, tape noise increases and the sound volume is low.

Using normal tapes (NORM) or chrome tapes (CrO_2)

Adjust the control so that "+3 dB" lights up from time to time with peak input signals.

Using metal tapes (METAL)

Adjust the controls so that "+6 dB" lights up from time to time with peak input signals.

NOTE:
The ▯▯ mark on the meter scale indicates the reference level for the DOLBY NR Systems.

[Balancing the recording level between left (L) and right (R) channels]

Due to the source to be recorded or the equipment used for playback, the sound volume balance between left and right may be shifted to one side. In this case perform fine adjustment using the REC BALANCE control ⑨.
Turning the control clockwise will lower the left channel level, and turning it counterclockwise will lower the level of the right channel.

REC BIAS ADJUSTMENT

It is possible to adjust the recording bias according to the tape used and the source to be recorded.

When turning the BIAS control clockwise:

The bias is increased (+) and consequently the high frequencies decrease, but distortion is reduced.

When turning the BIAS control counterclockwise:

The bias is decreased (–) and consequently distortion increases, but high frequencies are improved.

NOTE:

- *When performing bias adjustment, a sound with clearly distinguishable high frequencies (e.g. cymbals, etc.) is useful as reference. When using FM inter-station noise, make sure that the recording level is –10 dB or less.*
- *For sources with large, high-frequency content, such as rock music, it is possible to obtain recordings richer in modulation by turning the BIAS control towards (–). In case of classical music, it is possible to obtain recordings with rich middle and low range and low distortion by turning the BIAS control towards (+).*

RECORDING MUTE

[Inserting blank spaces between selections]

When the record muting (O) button ⑧ is pressed during recording, a blank space is created on the tape for as long as the switch is kept pressed.
Use this function to create the 4 second blanks required for the music search operation.

- Use the switch when recording an FM broadcast, for instance, to cut out unwanted commercials and narration, while simultaneously inserting breaks between the individual programs.
- Use the switch to create the blanks of 4 seconds or more required by the MS (Music Search) function.

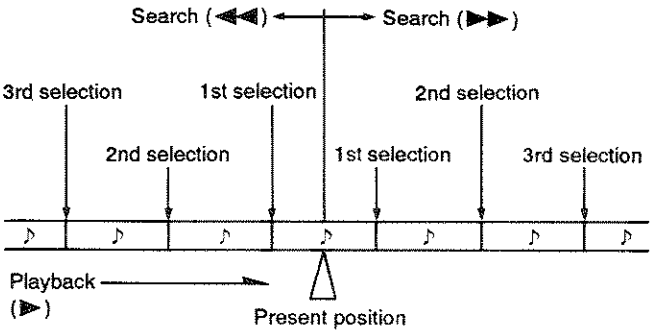
1. **Start the recording.**
2. **Once the program has come to an end, press the record muting (O) button ⑧. The tape still continues to travel but no signals are recorded on the tape.**
   After automatically creating a blank of 4 seconds, the unit enters the recording standby mode. If the record muting (O) button ⑧ is pressed continuously for more than 4 seconds, no signals will be recorded while the button is held depressed. The unit enters the recording standby mode when the button is released. Press the pause (▮▮) button ⑦ or the playback (►) button ④ to continue recording.

MUSIC SEARCH

Music search is a function which detects the unrecorded blanks between the selections and finds the start of a selection while the tape is being fast forwarded or rewound.

1. **Press the playback (►) button ④.**
2. **Press the fast forward (►►) button ⑤ to listen to the selection following the present selection. To listen to the present selection again, press the rewind (◄◄) button ②.**
3. **When the unrecorded blank between the selections is detected, the unit is set to the playback mode.**
   When pressing the ◄◄ or ►► button several times, the unit will skip the corresponding number of selections.

Up to 15 selections can be skipped in either direction.



NOTE:
The music search function may not work properly with the following types of tapes. This does not, however, mean that there is something wrong with the unit.

- *Tapes which do not have unrecorded blanks lasting about 4 seconds or more between the selections.*
- *Tapes with classical music recorded, for instance, where pianissimo sections continue for many seconds, and tapes where, in a selection, the sound is interrupted for several seconds.*
- *Tapes recorded at a low level.*
- *Tapes with conversations where the recording of the voice is intermittent.*
- *Tapes where a high level of noise or humming has been recorded between selections.*

RECORDING AND PLAYBACK USING AN AUDIO TIMER

Procedures may differ somewhat depending on the audio timer used. Be sure to read the operating instructions for the timer closely in conjunction with the instructions given here.

[UNATTENDED RECORDING]

1. **Set the POWER switches of the components to ON and turn down the volume control on the stereo amplifier.**
2. **Press the EJECT (▲) button ⑩, and load the cassette tape to be recorded.**
3. **Set the DOLBY NR switches ⑮ and TAPE SELECTOR switches ⑭ in accordance with the desired recording method and the type of tape being used.**
4. **Tune in the station whose program is to be recorded.**
5. **Press the recording (●) button ⑥.**
6. **Adjust the recording level with the REC LEVEL control ⑰.**
7. **Set the time on the audio timer so that the power comes on at the desired time. With this operation the power to the connected audio components is turned off.**
8. **Set the TIMER switch ⑪ to REC.**

[WAKE-UP PLAYBACK]

1. **Set the POWER switches of the components to ON.**
2. **Load the tape which is to be played back.**
3. **Set the DOLBY NR switches ⑮ and TAPE SELECTOR switches ⑭ correctly.**
4. **Press the playback (►) button ④ and set the volume control on the stereo amplifier to the level desired for timer playback.**
5. **Rewind the tape to the position where playback is to start.**
6. **Set the time on the audio timer so that the power comes on at the desired time. With this operation the power to the audio components is turned off.**
7. **Set the TIMER switch ⑪ to PLAY.**

When not performing timer operation, always set the TIMER switch ⑪ to the OFF position. Otherwise, recording or playback might automatically. Start when turning power on.

DOLBY NR & DOLBY HX PRO

DOLBY NR SYSTEMS

The Dolby NR Systems are designed to reduce high-frequency noise (tape hiss) during playback. The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. At the same time, high-frequency noise (most easily perceived by the human ear) is attenuated as well.
Dolby B-type NR reduce high-frequency tape noise, widening the dynamic range. Dolby C-type NR is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.
For playback always use the same Dolby NR setting that was used for recording.

NOTE:
Avoid playing back tapes recorded using the Dolby NR Systems with the DOLBY NR switch in the OFF position, or tapes recorded without Dolby NR Systems with the DOLBY NR switch in the ON position (B or C), since this does not allow faithful reproduction of the original sound.

DOLBY HX PRO HEADROOM EXTENSION SYSTEM

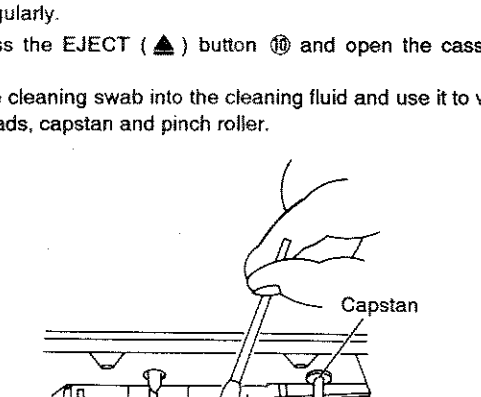
The Dolby HX Pro system controls the bias current during recording and always keeps it at an optimum level according to the high frequency components of the music signal. It therefore allows excellent recordings even of digital sources which contain a large amount of strong, high-frequency components. The Dolby HX Pro effect is obtained independently from the setting of the Dolby NR Systems (B-type, C-type or OFF). Furthermore, since the system is used only during recording, an improvement of sound can be achieved even if tapes recorded with Dolby HX Pro are played back with a deck, radio cassette recorder or car stereo system not equipped with DOLBY HX PRO. To guarantee optimum recording results, the HX Pro system of this unit is automatically activated during recording.

MAINTENANCE

CLEANING THE HEADS, PINCH ROLLER AND CAPSTAN

The heads, pinch roller and capstan are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high-frequency components are not reproduced and the stereo balance is impaired, resulting in a deterioration in the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Depress the EJECT (▲) button ⑩ and open the cassette door.
2. Dip the cleaning swab into the cleaning fluid and use it to wipe the heads, capstan and pinch roller.



NOTE:
Do not load a tape after cleaning the head section until the cleaning fluid has completely dried (this takes two or three minutes).

DEMAGNETIZING THE HEAD

After using the cassette deck over a period of time, the head will become magnetized. The same effect is also caused by bringing a screwdriver, magnet or other magnetized object too close to the head. This causes loss of high-frequency sound during recording and playback, and is also a cause of interference noise. The heads should be regularly demagnetized with a head demagnetizer (eraser) which can be purchased at dealer shops.
When demagnetizing the head, be sure the cassette deck POWER switch ① is in the STANDBY position. For detailed instructions, consult the operating manual for your head demagnetizer (eraser).

CLEANING THE FRONT PANEL SECTION

Wipe the front panel and the cassette door when dusty or greasy with a soft cloth containing a small amount of ordinary liquid soap. Then, wipe dry with a cloth. Never use volatile spirits like thinners, benzine or alcohol because they will damage the panel finish.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Probable Cause	Remedy
Cassette door does not open.	Tape mechanism was not stopped.	Press the stop (■) button.
Cassette door does not close.	Cassette tape has not been loaded properly.	Load the tape again.
No power even with POWER switch at ON.	• Disconnected power cord. • Power cord is connected to switched auxiliary outlet on a stereo component whose power is OFF.	• Connect properly to a power outlet. • Turn on the power of that component.
Tape doesn't run.	• Tape is wound to its end. • Cassette tape not loaded properly. • Slack tape. • The deck is in the pause mode.	• Rewind tape. • Reload tape. • Take up slack using pencil (see page 7). • Press the pause (▮▮) button.
No sound.	• Stereo amplifier function switch is not set to TAPE. • Stereo amplifier volume control is at minimum position. • Unrecorded tape has been loaded. • Disconnected or improper stereo amplifier connection. • Dirty heads.	• Set it to TAPE. • Turn up the volume. • Use a recorded tape. • Check all connections (see page 4). • Clean the heads (see page 11).
No recording.	• Cassette tape accidental erasure prevention tab broken off. • Disconnected or improper stereo amplifier connection. • Dirty heads. • REC LEVEL control set too low (no indication of the level meter during recording).	• Replace tape or cover tab hole with adhesive tape (see page 7). • Check all connections (see page 4). • Clean the heads (see page 11). • Adjust the REC LEVEL control as indicated on page 8 and record.
Previous sound remains when recording anew.	Dirty heads.	Clean heads (see page 11).
No treble sound.	• A tape which was not recorded with the Dolby NR Systems are being played back with DOLBY NR ON. • Dirty heads.	• Set DOLBY NR switch to proper position. • Clean heads (see page 11).
Boosted treble.	A tape which was recorded with the DOLBY NR Systems are being played back with DOLBY NR OFF.	Set DOLBY NR switches to proper position.
Distorted sound.	• Distortion in recorded tape itself. • Recording level is too high. • Dirty heads.	• Try replacing tape. • Turn down recording level and record (see page 8). • Clean heads (see page 11).

Symptom	Probable Cause	Remedy
Unstable or intermittent sound.	• Dirty heads, pinch roller and capstan. • Cassette tape is not wound up uniformly.	• Clean heads (see page 11). • Fast forward or rewind tape to wind up tape again.
High noise level.	• Tape itself has high noise level. • Connecting cord has been connected improperly. • Unit has been placed near TV set. • Recording level is too low. • Dirty heads. • Heads are magnetized.	• Replace cassette tape. • Inspect input and output connections; connect cords properly. • Move the deck away from the TV set or turn the TV power off. • Turn up recording level and record (see page 8). • Clean heads (see page 11). • Demagnetize them with head eraser.

SPECIFICATIONS

Systems ····· 4 track, 2-channel stereo
Heads ····· "Hard Permalloy" recording/playback head × 1
"Ferrite" erasing head × 1
Motor ····· DC servo capstan motor × 1
DC reel motor × 1
Wow and Flutter ····· No more than 0.055% (WRMS)
± 0.17% (DIN)
Fast winding Time ····· Approximately 100 seconds
(C-60 tape)
Frequency Response (± 6 dB)
–20 dB recording:
Normal tape ····· 25 to 16,000 Hz
Chrome tape ····· 25 to 17,000 Hz
Metal tape ····· 25 to 18,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ····· More than 58 dB
Noise Reduction Effect
Dolby B-type NR ON ····· More than 10 dB (at 5 kHz)
Dolby C-type NR ON ····· More than 19 dB (at 5 kHz)
Harmonic Distortion ····· No more than 0.7% (0 dB)
Input (Sensitivity)
LINE (INPUT) ····· 63 mV (Input impedance 50 k Ω)
Output (Reference level)
LINE (OUTPUT) ····· 316 mV (Output impedance 5.5 k Ω)
Headphone ····· 0.25 mW (load impedance 8 Ω)

Subfunctions

- DOLBY B-type and C-type NR Systems
- DOLBY HX PRO
- MPX FILTER switch
- 3-position tape selector (NORM/CrO2/METAL)
- Music search over ± 15 selections
- Automatic space recording mute
- Rec BIAS control
- 7 segments/channel LED level meter
- Timer Recording/Playback

Miscellaneous

Power Requirements
European model ····· AC 220 Volts ~ , 50/60 Hz
U.K., Australian models ····· AC 240 Volts ~ , 50/60 Hz
Other destination models ·····
AC 110V/120–127V/220V/240V,
50/60 Hz (switchable)
Power Consumption
European, U.K. models ····· 17W
Other destination models ····· 17W
Dimensions ····· 420(W) × 120(H) × 272(D) mm
16-9/16(W) × 4-3/4(H) × 10-11/16(D) in
Weight (without package) ····· 4.2 kg (9 lb 4 oz)

Accessories

Operating instructions ····· 1
Connection cord with pin plugs ····· 2

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

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<89C01SY0S01>

Printed in Japan <RRB1035-A>